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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,408	07/27/2001	David Marshall	10016387-1	8870

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EXAMINER	
DEB, ANJAN K	

ART UNIT	PAPER NUMBER
2858	

DATE MAILED: 10/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/916,408	MARSHALL ET AL.	
	Examin r	Art Unit	
	Anjan K Deb	2858	

-- The MAILING DATE of this communication appears on the cov r sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This office action is in response to response with remarks filed 9-22-03.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Draving (US 6,262,602 B1).

Re claim 1, Draving discloses a method comprising activating an inactivated reference voltage V_{TH} in response to an input voltage IN crossing an inactivated reference voltage and changing an output in response to the input voltage crossing activated reference voltage (Fig. 3).

Re claim 2, Draving discloses a delay ΔT_1 for not responding by changing the output to the input voltage crossing the activated reference voltage for a period of time (Fig. 3).

Re claim 3, Draving discloses a method comprising activating a first reference voltage V_{TH} changing an output in response to the input voltage IN crossing first reference voltage, and activating second reference voltage V_{TL} and deactivating first reference voltage in response to input voltage IN crossing the second reference voltage (Fig. 3).

Re claim 4, Draving discloses delay ΔT_1 for holding output after changing for a period of time (Fig. 3).

Re claim 5, Draving discloses changing an output in response to the input voltage crossing second reference voltage V_{TL}, and activating first reference voltage V_{TH} and deactivating second reference voltage V_{TL} in response to input voltage crossing first reference voltage (Fig. 3).

Re claim 6, Draving discloses a method of receiving signal comprising comparing 3002 an input IN to a first reference voltage V_{TH} that is activated and a second reference voltage V_{TL} that is deactivated, and changing an output OUT when input crosses one of first or second reference voltage, and activating second reference and deactivating first reference when input crosses one of first or second reference voltage and the second reference voltage is deactivated (Fig. 3).

Re claim 7, Draving discloses a delay ΔT_1 for holding output after changing for a period of time (Fig. 3).

Re claim 8, Draving discloses an apparatus comprising means (Fig. 3) for activating an inactivated reference voltage V_{TH}, and means (3006) for deactivating an active reference voltage in response to an input voltage IN crossing an inactivated reference voltage and means

3008 for changing an output OUT in response to the input voltage crossing activated reference voltage (Fig. 3).

Re claim 9, Draving discloses a delay ΔT_1 means 3010 for not responding by changing output to the input voltage crossing the activated reference voltage for a period of time (Fig. 3).

Re claim 10, Draving discloses an apparatus comprising a first comparator 3002 having a first output that compares a first reference V_{TH} to an input signal IN, a second comparator 3004 having a second output that compares a second reference V_{TL} to the input, a selector 3006 that passes one of the first and second output to a receiver 3008 output depending upon which one of first and second reference is activated, an activator/deactivator that controls (see Draving selector control as in claim 1) selector 3006 depending upon state of first and second output (Fig. 3).

Re claim 11, Draving discloses a holder (delay means: 3010) that prevents receiver 3008 output changing for a period of time after a change in which first or second reference voltage is activated (Fig. 3).

Re claim 12, Draving discloses (Fig. 3) dual reference voltage input receiver for high speed data transmission comprising a first reference voltage V_{TH} a second reference voltage V_{TL}, input signal IN, and a MUX 3006 that selects results of comparison (3002)(3004) of first

and second reference voltage compared to input voltage IN based upon which of the first and second reference voltage is closer to the input signal IN (Fig. 3).

Re claim 13, Draving discloses output OUT depends upon results during times that are a predetermined time ΔT_1 after a change on the output (Fig. 3).

Re claim 14, Draving discloses apparatus for detecting low-to-high and high-to-low transitions on an input signal (Fig. 2) comprising a first reference voltage V_{TH} that is compared 3002 to an input signal IN and detects low-to-high transitions when input signal crosses from lower than first reference voltage to higher than first reference voltage, a second reference voltage V_{TL} that is compared 3004 to an input signal IN and detects high-to-low transitions when input signal crosses from higher than second reference voltage to lower than first reference voltage than second reference voltage (Fig. 3).

Re claim 15, Draving discloses a holder (delay means: 3010) that prevents receiver 3008 output OUT changing for a period of time after a change in which first or second reference voltage is activated (Fig. 3).

4. Claims 1,3,5-6,8,10,12,14 are rejected under 35 U.S.C. 102(b) as being anticipated by Saunders et al. (US 5,933,459 A).

Re claim 1, Saunders et al. discloses a method comprising activating an inactivated reference voltage V(ref1) in response to an input voltage 322 crossing an inactivated reference voltage and changing an output 312 in response to the input voltage crossing activated reference voltage (Fig. 4).

Re claim 3, Saunders et al. discloses a method comprising activating a first reference voltage V(ref1) changing an output in response to the input voltage crossing first reference voltage, and activating second reference voltage V(ref2) and deactivating first reference voltage in response to input voltage 322 crossing the second reference voltage (Fig. 4).

Re claim 5, Saunders et al. discloses changing an output in response to the input voltage crossing second reference voltage, and activating first reference voltage V(ref1) and deactivating second reference voltage V(ref2) in response to input voltage crossing first reference voltage (Fig. 4).

Re claim 6, Saunders et al. discloses a method of receiving signal comprising comparing an input to a first reference voltage V(ref1) that is activated and a second reference voltage V(ref2) that is deactivated, and changing an output 312 when input crosses one of first or

second reference voltage, and activating second reference and deactivating first reference when input crosses one of first or second reference voltage and the second reference voltage is deactivated (Fig. 4).

Re claim 8, Saunders et al. discloses an apparatus comprising means (424,310) for activating an inactivated reference voltage, and means (424,310) for deactivating an active reference voltage in response to an input voltage crossing an inactivated reference voltage and means for changing an output 312 in response to the input voltage crossing activated reference voltage (Fig. 4).

Re claim 10, Saunders et al. discloses an apparatus comprising a first comparator 410(a) having a first output 416(a) that compares a first reference V(ref1) to an input signal 322, a second comparator 410(b) having a second output 416(b) that compares a second reference V(ref2) to the input (Fig. 4), a selector (420,310) that passes one of the first and second output to a receiver output 312 depending upon which one of first and second reference is activated, an activator/deactivator 420 that controls selector depending upon state of first and second output.

Re claim 12, Saunders et al. discloses (Fig. 4) dual reference voltage input receiver for high speed data transmission comprising a first reference voltage V(ref1), a second reference voltage V(ref2), input signal 322, and a MUX 420 that selects between comparator outputs 416(a) and 416(b) based upon which of the first and second reference voltage is closer to the input signal (see column 5 lines 25-42).

Re claim 14, Saunders et al. discloses apparatus for detecting low-to-high and high-to-low transitions on an input signal (see column 3 lines 22-37) comprising a first reference voltage V(ref1) that is compared to an input signal 322 and detects low-to-high transitions when input signal crosses from lower than first reference voltage to higher than first reference voltage, a second reference voltage V(ref2) that is compared to an input signal 322 and detects high-to-low transitions when input signal crosses from higher than second reference voltage to lower than first reference voltage than second reference voltage.

Response to Arguments

5. In response to applicant's argument regarding claim 1 (page 2 lines 8-9) that Saunders does not disclose activating and deactivating **in response to an input voltage crossing an inactivated reference voltage**, and changing an output **in response to said input voltage crossing said activated reference voltage**, please refer to Fig. 2 wherein Saunders discloses following a transition (216) (input voltage crossing an inactivated reference voltage), a reference voltage level (220) is selected (activated).

6. In response to applicant's argument regarding claim 1, (page 2 lines 10-12) that Saunders's discloses receiver output (312) changes in response to a clock or strobe signal, examiner respectfully states that the receiver output does not change in response to a clock or strobe signal but is only enabled by clock or strobe signal. The receiver output changes only after input voltage crosses an activated reference voltage. Since applicant did not include a specific time interval during which time receiver output changes, rejection of claims 1,3,5-6,8,10,12,14 under 35 USC 102 as anticipated by Saunders (US 5,933,459 A) is proper.

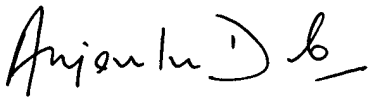
The essence of this invention is a dual reference voltage detection system wherein one reference voltage is active and the other reference voltage is inactive at a given time, wherein an

inactivated reference voltage is activated in response to an input voltage crossing inactivated reference voltage. The prior arts cited in this office action disclose this feature.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Anjan K. Deb whose telephone number is (703) 308-2941. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le, can be reached at (703)-308-0750.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone numbers are (703)-308-0956 and (703)-305-4900.



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